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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/730,679	12/06/2000	Nabil Khalifa	PHF 99, 618	8828

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EXAMINER	
WILSON, ROBERT W	
ART UNIT	PAPER NUMBER
2661	

DATE MAILED: 11/19/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/730,679	KHALIFA ET AL.	
	Examiner	Art Unit	
	Robert W Wilson	2661	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *03 August 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-19* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-19* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *7/17/2001*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1.0 The application of Khalifa et. al. entitled TRANSMISSION SYSTEM COMPRISING A STATION OF A FIRST TYPE AND A STATION OF A SECOND TYPE AND A SYNCHRONIZATION METHOD filed on 12/6/2000 and amended on 8/30/04 with foreign priority based upon FRANCE 9915418 12/07/1999 was examined. Claims 1-19 are pending.

Claim Rejections - 35 USC § 103

2.0 **Claims 1-4, 5(2nd version), & 10-14** are rejected under 35 U.S.C. 103(a) as being unpatentable over Kenney (U.S. Patent No.; 6,735,242B1) in view of Molev-Shteiman (U.S. Patent No.: 6,061,386).

Referring to **Claim 1**, Kenney et. al. teaches: A transmission system (Fig 12)comprising at least of a station of a first type (1240 per Fig 12 or Base Station or first type of station) and a station of a second type (1210 per Fig 12 or mobile or second type of station)

which include a transmitting part (1150 per Fig 11 or transmitter or transmitting part)

having a transmit timing control for transmitting data at a transmit timing and a receiving part having a synchronizing circuits for synchronization with data transmitted from a different station type to provide a receive timing (The mobile receives a SYNC message from the Base Station per col. 3 line 1-67 and the mobile also has a DLL and or TTL for determining the synchronization per Figs 11 in the RECEIVER or receiver circuits and 1150 per Fig 11 wherein Transmitter an inherent timing control in order for the invention to work)

characterized in that the transmit timing is fixed in response to the receive timing characterized in that the receiving port of the station of the second type has a synchronization circuit that provide chip fractions shifted in time (The timing is fixed by the Sync message from the base per col. 3 lines 1-67 and the mobile or second type of station has a circuit which determines a course alignment within one chip period and a fine synchronization per col. 1 line 35-col. 3 line 67)

Kenney et. al. does not expressly call for : synchronization circuit that provide chip fractions shifted in time but teaches fine synchronization per col. 1 line 35-col. 3 line 67

Molev-Shteiman et. al. teaches : fine synchronization that provides chip fractions shifted in time per col. 6 line 1-19.

It would have been obvious to one of ordinary skill in the art at the time of the invention that the fine synchronization of Kenney performs synchronization to within a small fraction of a chip because according Molev-Shteiman it is well known in the art that synchronization is performed in two phases. The first stage is a gross or course phase within a chip followed by a fine synchronization phase within a fraction of a chip per col. 6 lines 1-20 of Molev-Shteinman.

In Addition Kenney teaches:

Regarding **Claim 2**, formed by a station of the first type where the receiving part comprising a synchronizing circuit for determining the receiving timing of a plurality of stations of the second type, characterized in that the synchronizing circuit of the station of the first type is known to all the station of the second type (The applicant broadly claims that the "synchronizing circuit of the first type is known to the station of the second type". The examiner interprets that because all of the mobile stations which are stations of second type have the same synchronizing circuitry that that circuitry is known by the base or station of the second type per Fig 11 & 12)

Regarding **Claim 3**, characterized in that the station of the second type comprise means for evaluating a frequency shift of the receiving request relative to the transmitting frequency of the station for the first type and means for modifying the transmitting frequency of the station of the second type as a function of the frequency deviation (The combination of Kenney and Molev-Shteiman teach a mobile is the second type and a base is the first type. The examiner takes official notice that adjusting for a frequency shift is well known in the art per US Patent No.: 4,601,046 per Abstract or per col. 8 lines 15-30 or per col. 11 line 50-col. 14 line 19 or per col. 19 line 26-col. 24 line 12. It would have been obvious to add the frequency shift correction of U.S. Patent No.; 4,601,047 to the base station of the combination Kenney and Molev-Shteiman in order to receive and transmit spread spectrum or CDMA signals in a network or in other words in order for the invention to work)

In **Addition Molev-Shteiman teaches:**

Regarding **Claim 5 (2nd version)**, wherein the synchronization circuit provides chip fractions shifted in time produces an output corresponding to a satisfactory state of synchronism (The applicant broadly claims "satisfactory state of synchronism" which is subjective. The examiner interprets "sync within a fraction of a chip" as satisfactory per col. 6 lines 4-19)

Referring to **Claim 4**, Kenney et. al. teaches: A transmission system (Fig 12)comprising at least of a station of a first type (1240 per Fig 12 of Base Station or first type) and a station of a second type (1210 per Fig 12 or mobile or second type)

including a transmitting part having a transmit timing controller for transmitting data at a transmit timing (1150 per Fig 11 or transmit timing controller) and a receiving part having a synchronizing circuits for synchronization with data transmitted from a different station type to provide a receive timing (The mobile receiver a SYNC message from the Base Stations pilot per col. 3 line 1-67 and the mobile also has a DLL and or TTL for determining the synchronization

per Figs 11 in the RECEIVER or receiver circuits and 1150 per Fig 11 or Transmitter an inherent timing control which are used to send and receive data to the base station or different station type)

characterized in that the receiving part of the station of the second type has a synchronization circuit that provide chip fractions shifted in time of the first type (the mobile or second type has a circuit which determines a course alignment within one chip period and a fine synchronization for receiving data from the base station or second type per col. 1 line 35-col. 3 line 67)

comprising a receiving circuit to be shared by all of the stations of the second type to which it is connected (All of the mobiles or stations of the second type have a DLL or TTL per Figs 11 & 12 or all mobiles share the same kind of circuitry)

Kenney et. al. does not expressly call for : synchronization circuit that provide chip fractions shifted in time but teaches fine synchronization per col. 1 line 35-col. 3 line 67

Molev-Shteiman et. al. teaches : fine synchronization that provides chip fractions shifted in time per col. 6 line 1-19.

It would have been obvious to one of ordinary skill in the art at the time of the invention that the fine synchronization of Kenney performs synchronization to within a small fraction of a chip because according Molev-Shteiman it is well known in the art that synchronization is performed in two phases. The first stage is a gross or course phase within a chip followed by a fine synchronization phase within a fraction of a chip per col. 6 lines 1-20 of Molev-Shteinman.

In **Addition Molev-Shteiman teaches:**

Regarding **Claim 10**, wherein the synchronization circuit provides chip fractions shifted in time produces an output corresponding to a satisfactory state of synchronism (The applicant broadly claims "satisfactory state of synchronism" which is subjective. The examiner interprets "sync within a fraction of a chip" as satisfactory per col. 6 lines 4-19)

Regarding **Claim 11**, wherein the synchronization circuit provides chip fractions shifted in time produces an already produced chip fraction output that have just been produced (The reference teaches a process of achieving a course sync and a fine sync which is accurate to a fraction of a chip per col. 6 lines 4-19. It would have been obvious to one of ordinary skill in the art at the time of the invention that this is an iterative process which requires the circuit know chip fractions already produced in order to create a chip fraction output that have just been produced)

Regarding **Claim 12**, wherein the synchronization circuit provides chip fractions shifted in time produces a recently produced chip fraction output that contains chip fractions that have just been produced (The reference teaches a process of achieving a course sync and a fine sync which is accurate to a fraction of a chip per col. 6 lines 4-19. It would have been obvious to one of

ordinary skill in the art at the time of the invention that this is an iterative process which requires the circuit know chip fractions a recently produced chip fraction output that contains chip fractions that have just been produced)

In Addition Kenney teaches:

Regarding **Claim 13**, wherein the receiving part of the station of the second type further comprises means for modifying clock frequencies in response to the frequency drift. (Kenney teaches a mobile or station of the second type per Figs 11-12 and estimation of the frequency which has been effected by Doppler per Col. 2 line 4. The examiner takes official notice that modifying a clock frequency is well known in the art per Horowitz (U.S. Patent No.; 4,601,047) per col. 19 lines 25-40 or col. 8 lines 15-29. It would have been obvious to one of ordinary skill in the art at the time of the invention to add the modifying of the clock of Horowitz to the combination of Kenney and Molev-Shteiman in order to correct for Doppler)

Regarding **Claim 14**, wherein the receiving part of the station of the second type further comprises an analysis circuit receives chip fractions shifted in time by synchronization circuit and determines a frequency drift, therefrom (The applicant broadly claims "frequency drift". Kenney teaches a mobile or station of the second type per Figs 11-12 and estimation of the frequency which has been effected by Doppler per Col. 2 line 4. It would have been obvious to one of ordinary skill in the art at the time of the invention that relative motion of the mobile to the base creates Doppler which results in "frequency drift".)

Claim Rejections - 35 USC § 103

3.0 Claims 5 (1st version), 6-9, & 15-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kenney (U.S. Patent No.; 6,735,242B1) in view of Horwitz (U.S. Patent No.; 4,601,047).

Referring to **Claim 5 (1st version)**, Kenney et. al. teaches: Synchronization method suitable for a system (Figure 12 or system) comprising at least of a station of a first type (1240 per Fig 12 of Base Station or first type) and a station of a second type (1210 per Fig 12 or mobile or second type)

Which include a transmitting part having a transmit timing controller for transmitting data at a transmit timing (1150 per Fig 11 or transmit timing controller) and a receiving part having a synchronizing circuits for synchronization with data transmitted from a different station type to provide a receive timing (The mobile receiver a SYNC message from the Base Stations pilot per

col. 3 line 1-67 and the mobile also has a DLL and or TTL for determining the synchronization per Figs 11 in the RECEIVER or receiver circuits and 1150 per Fig 11 or Transmitter an inherent timing control which are used to send and receive data to the base station or different station type), characterized in that it comprises the following steps:

Providing the receiving part of the station of the second type which the synchronization circuit that generates chip fractions shitted in time (The mobile or second type has a circuit which determines a course alignment within one chip period and a fine synchronization for receiving data from the base station or second type per col. 1 line 35-col. 3 line 67)

Kenney et. al. does not expressly call for : synchronization circuit that provide chip fractions shifted in time or measuring the receive clock deviation made at the station of the second type comparing the transmit clock at the station to the second type by adopting the opposite deviation value but teaches fine synchronization per col. 1 line 35-col. 3 line 67

Horiwitz teaches : fine synchronization that provides chip fractions shifted in time (col. 19 line 57-col. 22 line 29) and measuring the receive clock deviation made at the station of the second type comparing the transmit clock at the station to the second type by adopting the opposite deviation value (adjusting the system clock base upon course and time tuning per col. 19 line 25—40 or per col. 8 lines 15-29)

It would have been obvious to one of ordinary skill in the art at the time of the invention that the to add the fine synchronization adjustment to a fraction of a chip and the adjusting the system clock based upon deviations of Horwitz to the mobile and base station of the Kenney in order to receive and transmit spread spectrum or CDMA signal in a network.

In **Addition Molev-Shteiman teaches:**

Regarding **Claim 6**, wherein the synchronization circuit provides chip fractions shifted in time produces an already produced chip fraction shifted in time produces a recently produced chip fraction output that contains chip fraction previously produced at the first output (The reference teaches a process of achieving a course sync and a fine sync which is accurate to a fraction of a chip per col. 6 lines 4-19. It would have been obvious to one of ordinary skill in the art at the time of the invention that this is an iterative process which requires the circuit know chip fractions previously produced at the first output)

Regarding **Claim 7**, wherein the synchronization circuit provides chip fractions shifted in time produces an already produced chip fraction shifted in time produces a recently produced chip fraction output that contains chip fraction that have just been produced (The reference teaches a process of achieving a course sync and a fine sync which is accurate to a fraction of a chip per col. 6 lines 4-19. It would have been obvious to one of ordinary skill in the art at the time of the invention that this is an iterative process which requires the circuit know chip fraction output that contains chip fraction that have just been produced)

In Addition Kenney teaches:

Regarding **Claim 8**, wherein the receiving part of the station of the second type further comprises an analysis circuit receives chip fractions shifted in time by synchronization circuit and determines a frequency drift, therefrom (The applicant broadly claims "frequency drift". Kenney teaches a mobile or station of the second type per Figs 11-12 and estimation of the frequency which has been effected by Doppler per Col. 2 line 4. It would have been obvious to one of ordinary skill in the art at the time of the invention that relative motion of the mobile to the base creates Doppler which results in "frequency drift".)

Regarding **Claim 9**, wherein the receiving part of the station of the second type further comprises means for modifying clock frequencies in response to the frequency drift. (Kenney teaches a mobile or station of the second type per Figs 11-12 and estimation of the frequency which has been effected by Doppler per Col. 2 line 4. The examiner takes official notice that modifying a clock frequency is well known in the art per Horowitz (U.S. Patent No.; 4,601,047) per col. 19 lines 25-40 or col. 8 lines 15-29. It would have been obvious to one of ordinary skill in the art at the time of the invention to add the modifying of the clock of Horowitz to the combination of Kenney and Molev-Shteiman in order to correct for Doppler)

Regarding **Claim 18**, wherein the receiving part of the station of the second type further comprises an analysis circuit receives chip fractions shifted in time by synchronization circuit and determines a frequency drift, therefrom (The applicant broadly claims "frequency drift". Kenney teaches a mobile or station of the second type per Figs 11-12 and estimation of the frequency which has been effected by Doppler per Col. 2 line 4. It would have been obvious to one of ordinary skill in the art at the time of the invention that relative motion of the mobile to the base creates Doppler which results in "frequency drift".)

Regarding **Claim 19**, wherein the receiving part of the station of the second type further comprises means for modifying clock frequencies in response to the frequency drift. (Kenney teaches a mobile or station of the second type per Figs 11-12 and estimation of the frequency which has been effected by Doppler per Col. 2 line 4. The examiner takes official notice that modifying a clock frequency is well known in the art per Horowitz (U.S. Patent No.; 4,601,047) per col. 19 lines 25-40 or col. 8 lines 15-29. It would have been obvious to one of ordinary skill in the art at the time of the invention to add the modifying of the clock of Horowitz to the combination of Kenney and Molev-Shteiman in order to correct for Doppler)

In **Addition Molev-Shteiman teaches:**

Regarding **Claim 15**, wherein the synchronization circuit provides chip fractions shifted in time produces an output corresponding to a satisfactory state of synchronism (The applicant broadly claims "satisfactory state of synchronism" which is subjective. The examiner interprets "sync within a fraction of a chip" as satisfactory per col. 6 lines 4-19)

Regarding **Claim 16**, wherein the synchronization circuit provides chip fractions shifted in time produces an already produced chip fraction output that have just been produced (The reference teaches a process of achieving a course sync and a fine sync which is accurate to a fraction of a chip per col. 6 lines 4-19. It would have been obvious to one of ordinary skill in the art at the time of the invention that this is an iterative process which requires the circuit know chip fractions already produced in order to create a chip fraction output that have just been produced)

Regarding **Claim 17**, wherein the synchronization circuit provides chip fractions shifted in time produces a recently produced chip fraction output that contains chip fractions that have just been produced (The reference teaches a process of achieving a course sync and a fine sync which is accurate to a fraction of a chip per col. 6 lines 4-19. It would have been obvious to one of ordinary skill in the art at the time of the invention that this is an iterative process which requires the circuit know chip fractions a recently produced chip fraction output that contains chip fractions that have just been produced)

Claim Rejections - 35 USC § 112

4.0 The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5.0 **Claims 5 (1st), 6-9, & 15-19** are rejected relative to 112/2nd paragraph because the metes and bounds of the claims cannot be assessed.

Referring to Claim 5 (1st), what is meant by "measuring the receive clock derivation made at the stations of the second type, comparing the transmit clock at the station of the second type by adopting the opposite deviation value, single synchronization of the receive clock at the station of the first type". What is meant by "adopting".

Claim Rejections - 35 USC § 112

5.0 The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6.0 **Claims 5–9 & 15-19** are rejected relative to 112/2nd paragraph because the metes and bounds of the claims cannot be assessed.

Referring to Claims 5-9 & 15-19, there are two claim 5s and because there are two claim 5s all of the claims depending on the claim 5s are indefinite because one cannot tell which claim 5 they depend.

Claim Rejections - 35 USC § 112

7.0 The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8.0 **Claims 5 (2nd version), 6-8, 8-12, & 16-17** are rejected relative to 112/2nd paragraph because the metes and bounds of the claims cannot be assessed.

Referring to Claims **5 (2nd version), 6-8, 8-12, & 16-17,** What is meant by a chip fraction shifted to produce another chip fraction? Is the applicant trying to describe a recursive estimator?

Response to Amendment

9.0 Applicant's arguments with respect to claims 1-19 have been considered but are moot in view of the new ground(s) of rejection.

The examiner respectively disagrees with the applicant arguments that the new reference fail to teach providing "chip fractions shifted in time". Please refer to the above rejections as to the details of how the new references teach the limitation "chip fractions shifted in time"

10.0 Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Conclusion

11.0 Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert W Wilson whose telephone number is 571/272-3075. The examiner can normally be reached on M-F (8:00-4:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kenneth Vanderpuye can be reached on 571/272-3078. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

KENNETH VANDERPUYE
PRIMARY EXAMINER

Robert W. Wilson

Robert W Wilson
Examiner
Art Unit 2661

RWW
November 10, 2004